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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,654	03/06/2002	Frank David Zychowski	UVC-125-A	8528

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EXAMINER

MCCLENDON, SANZA L

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 09/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/092,654	Applicant(s) ZYCHOWSKI ET AL.	
	Examiner Sanza L. McClendon	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-18 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Priority

1. Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged.

Claim Objections

2. Claims 4-5 and 8 are objected to because of the following informalities: Claim 4 comprises many duplicate acrylate functional compounds. For instance, applicant claims diacrylate, triacrylate, and polyacrylate compounds, however the diacrylate and triacrylate compounds are polyacrylates. How does the rest of the list contained in claim 4, (i.e., all acrylates listed after polyacrylate) differ from the general broad class of polyacrylate compounds. The examiner request for clarification. In addition, the examiner request applicant to provide information on how aliphatic and aromatic urethane modified acrylates differs from the broad class of urethane acrylates. How polyester modified acrylates differ from the broad class of polyester acrylates, how epoxide modified acrylates differ from the broad class of epoxy acrylates? Does the broad class of acrylate functional cationic resins include epoxy acrylates, epoxy modified acrylates, and vinyl acrylates? What is the difference between acrylic polymers, modified acrylates, acrylic acrylates, acid modified acrylates and acid functional acrylates? Is an unsaturated cyclic dione an acrylate functional compound? What is the difference between a trifunctional acrylic ester and a triacrylate? What is a hybrid acrylate? In claim 5, how does an unsaturated resin differ from unsaturated polyester? Appropriate action is required. Claim 8 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the

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claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 1 calls for a photoinitiator blend, however there is only one photoinitiator blend claimed in claim 8, and the rest are individual photoinitiators. It is unclear if applicant is claiming a specific photoinitiator blend or is applicant intending for the listed photoinitiators to be used in a mixture to form a photoinitiator as claimed in claim 1.

It is unclear if applicant intended for the phrase, "present invention include, for example" in claim 8, line 3 to be in the claim. Please advise.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 4 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The acrylate compounds aliphatic and aromatic urethane modified acrylates, polyester modified acrylate, amine modified acrylate, and acid modified acrylate renders claim 4 indefinite. It is unclear what type of modification is intended or how the acrylate is modified and the specification give no guidance on what type of modification is required or intended in the invention.

Claim Rejections - 35 USC § 102

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5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-10 and 15-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Dunkle (US 6,514,076 B2).

Dunkle teaches methods of priming SMC parts. Said method comprises applying a photopolymerizable priming composition to a surface of an SMC part. Said composition comprises a photopolymerizable component, a photoinitiator component, and a conductive component. Said photopolymerizable component can be selected from monoacrylates, diacrylates, triacrylates, polyacrylates, urethane acrylates, polyester acrylates, and the like and combinations thereof; wherein said polymerizable components includes a mixture of at least two acrylate components, wherein it preferably comprises a first acrylate component and a second acrylate component such as those listed in column 4, lines 4-12. Said first acrylate is preferably a triacrylate and has a concentration between 68 and 84 percent by weight.

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Said second acrylate is preferably a mono-acrylate and has concentration between 15 and 25 percent by weight. A suitable list is listed in column 3, lines 50-59. Said photoinitiator component is used in concentrations from .01 to 7 percent by weight and combinations can be used. Said photoinitiators are found in column 4, lines 13-43. Per examples, Dunkle teaches using Irgacure 1700 as the photoinitiator component, wherein Irgacure 1700 is a mixture of a bis (2,6-dimethylbenzoyl) 2,4,4-trimethylpentyl phosphine oxide and 2-hydroxy-2-methyl-1-phenyl-propan-1-one. The conductive component is preferably a finely ground carbon black pigment, wherein Dunkle teaches that other metallic materials commonly known in the art can be used. In addition, Dunkle teaches that said priming composition could also include a pigment and other coloring agents. A preferred priming composition comprises 65-86-wt% propoxylated trimethyloyl propane triacrylate, between about 15 and 25-wt% isobornyl acrylate, between about 0.1 and 7-wt% of a Irgacure 1700, and between 0.1 and 5-wt% carbon black. This appears to anticipate claims 1-4, 6-11.

Dunkle teaches said priming composition can be applied to an SMC substrate by spraying an even coat and then curing using actinic radiation to promote a rapid polymerization process, wherein said actinic radiation can be either sun light, electron beam, or ultraviolet radiation, where ultraviolet is the preferred type. Said SMC substrate can be an automotive body part—see column 3, lines 20-25. This method appears to anticipate claims 15-18.

7. Claims 1-11 and 13-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Krohn (US 6,290,881 B1).

Krohn teaches ultraviolet curable silver compositions. Per one embodiment, Krohn teaches a black colored silver composition—see column 14-15 and example 8. Said composition comprises an aliphatic urethane acrylate oligomer in an amount of 8.8wt%, an acrylated epoxy in an amount of 2.5wt%, an isobornyl acrylate compound in an amount from 11.6wt%, Irgacure 1700 as the photoinitiator in an amount from 13.5wt%, carbon black as a pigment in an amount of 7.3wt%, a wetting agent, a flow

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promoting agent which is an ethyl acrylate/2-ethylhexyl acrylate copolymer in an amount from 0.7wt%, silver powder in an amount from 35.7wt% and silver flakes in an amount from 18.4wt%. Said acrylate portion comprises about 22.9wt% of the composition. The photoinitiator Irgacure 1700 is a photoinitiator blend comprising a mixture of a bis (2,6-dimethylbenzoyl) 2,4,4-trimethylpentyl phosphine oxide and 2-hydroxy-2-methyl-1-phenyl-propan-1-one. Carbon black is a conductive pigment and the silver powder and flakes can be considered a conductivity enhancer. The urethane acrylate oligomer appears to anticipate the pre-polymer of claim 6. Therefore the black colored silver compositions taught by Krohn anticipates claims 1-10, wherein the epoxy acrylate and urethane acrylate read on the unsaturated resins of claim 5, and, also, is deemed to anticipated claims 13-14; and thusly the composition should inherently be a electroconductive composition useful for sealing and priming substrates.

Krohn teaches said silver compositions can be applied to substrates, such as polyesters, polycarbonates, vinyls, glass, ceramics, and the like by techniques, such as brushing and spraying. Once said substrate is coated with the silver composition can be cured using ultraviolet light or radiation to form a coating, layer, film, or etc, wherein ultraviolet radiation is preferred. The teaching of polycarbonate substrates, spraying applications, and ultraviolet curing appears to anticipate claims 15-16.

8. Claims 1-11 and 13-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Smetana et al (US 6,350,792).

Smetana et al teaches radiation curable compositions. Said compositions comprise at least one radiation transmissible material dispersed in at least one cationic curable or free radical curable composition or mixtures, thereof, which can be coated onto substrates, such as plastics—see abstract. Said at least one radiation transmissible material can comprise non-crystalline quartzes. The cationic or free radical curable composition can comprise one or more cycloaliphatic epoxides,

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ethylenically unsaturated compounds, or mixtures thereof and a photoinitiator that can be cationic or free radical types. Per example 6, Smetana et al teaches a composition comprising 1.63wt% of a photoinitiator comprising a blend of oligo (2-hydroxy-2-methyl-1,4-^{glycidyl}(1-methylvinyl) phenyl) propanone and 2-hydroxy-2-methyl-1-phenyl-1-propanone, 8.70wt% trimethylolpropane triacrylate, 42.4wt% of an aliphatic urethane acrylate oligomer, 48.9wt% ethoxylated trimethylolpropane triacrylate, 2.17wt% of a white pigment, 5.43wt% titanium dioxide dispersion, 0.005wt% carbon black pigment, and 32.61wt% of a radiation transmissible fused quartz powder. This composition appears to anticipate claims 1-14, wherein carbon black is the conductive pigment, the white pigment is a non-conductive pigment, the aliphatic urethane acrylate is an unsaturated pre-polymer resin, and the titanium dioxide is considered the conductivity enhancer; and therefore the composition should inherently be an electroconductive composition used for priming or sealing a substrate. Smetana et al teaches said compositions can be applied to substrates, such as plastic, by electrostatic spraying and then cured using ultraviolet radiation to form a coating onto a substrate—see column 19, lines 15-18. This appears to anticipate claims 15-16.

Allowable Subject Matter

9. Claim 12 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to expressly teach and/or fairly suggest an electroconductive primer/sealer composition comprising a conductive pigment comprising a mixture of carbon black and a compound selected from the Markush group of claim

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Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L McClendon whose telephone number is (703) 305-0505. The examiner can normally be reached on Monday through Friday 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0657.

Sanza L McClendon

Examiner

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SMc



James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700